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October 27, 2004

Laureen Daly
Office of Technology Policy
Technology Administration HCHB 4817
1401 Constitution Avenue, N.W.
Washington, DC 20230

Dear Ms. Daly:

Thank you for this opportunity to provide further comment on several issues regarding electronics recycling. I provided some comments to you when we met in Minneapolis last week. These written comments will supplement those comments.

Snohomish County is the third most populous county in Washington State with a population of 620,000. Snohomish County has extensive experience with the e-waste challenge and there is a ban on the disposal of computers, monitors and televisions in place throughout the County.

I have served as one of the fifteen government negotiators in the NEPSI process, bringing the concerns and perspectives of local governments to the table. To do so, I have met with many local governments across the U.S. in a variety of forums, including "Listening to Local Government" workshops, designed to specifically get their input on e-waste issues, on-line forums, and hundreds of conference calls. Snohomish County has provided input to numerous local, state, national and international e-waste efforts, including model state legislation, the development of the EPA Plug into Ecycling program, and the planning of Alberta's e-waste recycling system, to name a few. We have worked directly with Staples, Good Guys and Office Depot, as well as a number of manufacturers, in the development and assessment of their pilot programs. We are in the process of working with several other governments and private entities to explore the formation of a private TPO to coordinate programs in Washington and Oregon.

Interim to a state-wide or national front-end financing system, we have put in place a network of 14 small electronics retailers who charge an end-of-life fee for the collection and processing of electronic products. We have also, in the interim, put in place an end-of-life fee system at 3 recycling/garbage transfer stations that we operate. We have coordinated a one time clean out of obsolete equipment from local schools and cities in 2003. In 2004, not including staffing, we will spend approximately $225,000 on the e-waste problem.

There are two points I would like to especially make:

1. We have a lot of experience in this area and lessons learned are reflected in my detailed comments below.
2. Most of this effort by Snohomish County, at great time and expense, would have been unnecessary if a smart front-end-financed system were in place nationally. Few local governments can expend the effort we have. It is a great waste of public funds and resources for each local government and each state government to have to struggle with an issue that

> can most efficiently and effectively be addressed nationally. I hope that your report to Congress will move us forward toward an effective national solution using a product stewardship approach and front-end financing.

The following are my specific comments on each of the four areas you have identified.

(1) Definition of covered products

- The list of products to be covered should not be as small as suggested by the roundtable participants. The covered products must be "logical" to those who will use the program. The consumer does not distinguish a monitor from a cpu from a printer when they are seeking recycling options for their "computer." These items will flow into the collection system and the financing mechanism must be such as to account for the costs of properly handling this diversity of related products.
- "Covered" by the system means that the system must provide for the financing for the proper handling of these products (collection, transport, reuse, recycling and proper disposal of hazardous materials). It does not necessarily mean that a fee must be assessed on each of the product categories. For instance, if a visible fee-based system were put in place (advanced recovery fee), a fee on cpus could cover the cost of related small peripherals.
- To start with, the covered products should include:
    - Computers
    - Laptops
    - Computer monitors including CRTs and flat screens
    - All large and small peripherals related to computers including all-in-one units that combine scanners, printers, and copiers
    - Televisions
    - All large and small peripherals related to TVs, including VCRs and DVDs
    - All products that combine television, computing and related technologies into single units
- Covered products should include products generated by any entity, including large and small businesses, institutions, governments, schools, charities, and residents. If these various generators are not included, problems develop. There is a lot to this issue that I can discuss with you in more detail if needed. Basically, if all generator types are not covered, sooner or later products originally purchased by large businesses will end up in the hands of small businesses, charities, or low income families. Few of these entities have reasonable recycling services available to them and some cannot afford what is currently available. Products purchased by large businesses must be covered in order to finance their eventual recycling after they have been passed down to these other entities.
- The system should be established so that other products can be incorporated into the system over time.

(2) Collection and the role of government in collection:

- Information on this issue and some of the bullet points below can be viewed in a PowerPoint slide show at: http://www.productstewardship.net/powerpoints/productsElectronicsGovConcerns.ppt
- Collection opportunities must be provided by a front-end financed system such that there is no charge to the user at the time of collection for basic collection services.
- Most governments cannot afford to provide no-cost collection. No-charge government programs also eliminate the ability of many other entities to collect (as they will incur costs and not be able to charge to recoup these costs) and hurt the development of private sector collection options. Additionally, they provide no feed back loop to manufacturers to encourage better product design for the environment.
- Use of end-of-life (EOL) fees may be necessary by governments and others providing collection service interim to a national system, but EOL fees create many problems. They deter some from using the program. These products are prone to "storage" for a number of reasons and EOL fees are a disincentive to getting them out of storage and recycling them. They also create additional costs to governments and other potential collectors due to the need to have staff handling money. I can give you more information on the issue of how money handling is a problem if needed. EOL fees also encourage illegal dumping, which then becomes another burden on the taxpayer.
- Collection opportunities should be on-going, easy to use, convenient and easily accessed and understood by the user. A good "rule of thumb" is that it should be as easy to recycle electronics as it is to buy them. No one would think that having one weekend event in an out-of-the-way parking lot once a year would be a smart way to sell computers. It is not a smart or cost effective way to collect them for recycling either.
- Collection service must be available across the country and in urban and rural communities. The level of service will vary however. For instance, those living in very remote rural communities are accustomed to traveling quite a distance to service towns for purchasing products, including electronics, or they mail order or purchase from the internet. Therefore, adequate and convenient service could be provided at electronics retailers in the service towns or through internet request of home pick up such as Dell provides, for extremely rural areas.
- Many existing government facilities are inadequate or inappropriate for handling electronic products. Of the 10 solid waste facilities in Snohomish County, in 2002 when we conducted an infrastructure study, only one was able to collect e-waste. After building two new stations, we are now able to collect at 3 stations. In 2002, we also determined that in a financial incentive based collection system (using a collection incentive payment via front-end financing mechanism), over 50 private recyclers, large retailers and charities were likely voluntary collection sites. This did not include the numerous small electronics retailers located throughout the county, fourteen of which are now part of our Take it Back Network of electronics collectors. The accessibility and convenience of 50-60 sites compared to three is obvious. The "burden" of providing collection by any single entity is also minimized.
- In summary, governments should not be required to provide collection services. They also should not be relied on as the primary collector type. Instead they should be seen as possible collectors among a number of entities providing collection services.
- Retailers can provide a very important collection function. They could be required by law to take back electronic products, or they could be required to take one back when one is sold (one-for-one take back). However, a well designed system with the correct financial incentives should be able to develop a robust collection infrastructure that does not require any particular entity to

provide collection. Such as system, as described below, would provide the adequate financial and market incentives for retailers, charities, private recyclers, manufacturers, and those governments able and willing, to provide the needed collection services.

- The front-end financing system should be adequate to provide a base level of service in urban and rural communities that pays for collection, transportation, recycling, any necessary disposal, and proper management of hazardous waste.

- Collectors who meet certain standards should receive a "collection incentive payment" (CIP) to encourage them to provide that service. The CIP should be paid to any collector type, including charities, repair shops, haulers, private recyclers, retailers, manufacturers and governments. The CIP only covers the cost of collection. Transport, processing, and other costs are also covered by the system, but not within the CIP. The efficient way to administer the CIP is through the processors contracted with to provide recycling services. Collectors that provide collected products to the processors will be paid a set rate per pound for materials that "enter the system."

- The collection incentive payment provides a safety net and financial security to allow many entities to provide collection. Charities would be able to aggressively collect electronics and cherry pick those items that can be profitably resold to support their programs. The remainder would "enter the system" and they would receive a CIP for each pound. Small television and computer repair shops could do the same. Retailers would know they could benefit from providing collection drop of service and getting increased store traffic, without worrying about the recycling cost. Etc.

(3) Financing collection, transportation and recycling, financing for orphan products, financing historical products versus future products, and the role of government, the electronics industry, and intermediaries in financing

- Please see finance related comments to questions above, including text pertaining to collection incentive payments.

- The entire system should financed using a front-end financing mechanism where the cost is incorporated into the price of the product and there is no charge to the consumer at the time of recycling. There are numerous ways to do this including:

    1. Costs internalized (CI) into the purchase price of the product. This is the preferred system as it does not require a visible fee nor does it require the retailer to collect and handle fees. It is administratively simpler.

    2. Use of a visible advanced recovery fee (ARF) that is collected at the point of sale. It can be submitted by the retailer or by the manufacturer. This is a more administratively complicated system and burdens retailers with the need to handle fees.

- There are numerous designs for CI or ARF systems, including hybrids of the two.

- Ideally, the financing system should provide a strong incentive for the manufacturer to design for the environment: reducing toxicity of products, designing for reuse and recycling, etc. and to participate in making the entire system efficient and cost effective. This is probably best done through CI systems that allow for or require individual brand responsibility.

- Use of end-of-life fees for the national system is not viable. See above.

- We have created some charts and text to describe different financing models, including the EOL scenario that is not viable. I will send these in a separate e-mail. They can be viewed at the following links:

http://www.productstewardship.net/PDFs/productsElectronicsFinancingScenarios.pdf

http://www.productstewardship.net/PDFs/productsElectronicsARFSystemChart.pdf

http://www.productstewardship.net/PDFs/productsElectronicsEPRSystem.pdf

http://www.productstewardship.net/PDFs/productsElectronicsWaLegchart.pdf

http://www.productstewardship.net/PDFs/productsElectronicsEOLFeesChart.pdf

- The financing must be adequate to provide for an environmentally sound system not dependant on export of hazardous materials or use of prison labor. The use of prison labor provides a false understanding of costs for sustaining the system and undermines private business from providing services and creating jobs. Use of prison labor is bad for the system and bad for the economy.

- Financing must be adequate to provide management of all covered products from all generator types. It must cover orphan and historical products.

- Funds collected to finance the system should not go into a government account. It should be placed in a trust account and should be managed by a quasi governmental or private Third Party Organization. Government accounts are too vulnerable to raiding and governmental administration of the national system would be unnecessarily bureaucratic and cumbersome. There is a good document created in the NEPSI process about a national TPO. Basic information about Third Party Organizations can also be found at:

  http://www.productstewardship.net/PDFs/policiesTPOBulletin.pdf

- Ideally, manufacturers would simply be held responsible for providing (or financing) all aspects of the system as described above. They would be required to meet performance standards, including convenience of service to urban and rural communities and collection of their share of orphan products. It would then be up to them to develop the relationships and incentives to collectors to be successful. The recent HP/Office Depot collection pilot provides an example of what a future system might look like if this approach was taken.

(4) The role of the federal government in creating a national recycling plan

The federal government needs to legislate a financing mechanism and performance standards, not create a national recycling plan. Local and state governments don't need a federal plan. We need some federal coordination and legislation, but not a plan to tell us what we already know or to tell us what we can do. We know that and we know the problems. We need federal attention to establishing financing to solve these problems in ways local and state governments can not.

In our discussions, you questioned why federal legislation is needed. There are many reasons. We have worked hard for a federal solution as our preference for over four years now. However, while my comments below explain why a federal solution is needed, we also support state by state legislation. Local communities and the states can no longer afford to wait for a federal solution and need to move on to solving the problem the best we can for ourselves interim to national legislation. This is not the best way to do this however and is only being pursued due to lack of a national solution. Hopefully, a patchwork of state laws will encourage industry and the federal government to pursue federal legislation.

- National legislation is needed to address commerce and competition issues.
  - Programs that vary between states will encourage illicit movement of materials between states to illegitimately collect state fees and payments on that material.
  - Visible ARFs used in a state bordering a state with no program may encourage consumers to cross state lines for purchases to avoid the fee, and later the system will incur costs for obsolete products for which a fee was never paid at time of purchase.
  - A level playing field needs to be established by national legislation. Voluntary programs can not be sustained at levels necessary to address the problem if competitors can avoid similar costs by not assisting. Likewise, federal legislation is needed to address free rider issues.
  - Effective programs may be able to be provided by individual manufacturers but more likely are going to require collective actions and cooperation between multiple manufacturers as well as retailers. Federal legislation is needed to address anti-trust issues.
  - State legislation will likely include product labeling requirements, information on packaging requirements, material bans, etc. A patchwork of labeling, packaging and material requirements may be equally burdensome for all manufacturers of electronic products (and therefore not a competitiveness issue from Commerce's perspective) - but could certainly create a problematic business atmosphere for manufacturers and retailers. These likely problems, caused by patchwork legislation, could be avoided by passing federal legislation.
- National legislation is needed to make the system efficient and effective. While state legislation can accomplish some needs, it is an inferior solution compared to federal legislation.
  - National manufacturers and retailers are already unable to provide knowledgeable representation and meaningful comment to state legislated study processes. It does not work to have hundreds of local governments and dozens of states trying to communicate with representatives of national manufacturers and retailers. At a local level, these communications are useless and ineffectual. The national government needs to address issues that involve national corporations.
  - We should have a "no state left behind" orientation to this problem. The situation is largely created by national and international corporations. Solving the problem with legislation in those states that can withstand lobbying efforts by these entities leaves the problem in place for the rest of the states. Financing required to address this problem, and the related system, needs to be available to all states, all communities, and all electronic product users.
  - With the U.S.A.'s mobile population, people and businesses move from one state to another. They should not benefit from a program they have not paid into (costing the system) nor should they lose the service that they paid into in another state. A national harmonized system would solve this problem.
  - There are many "economies of scale" advantages that federal legislation and a national program would provide. This includes everything from more competitive pricing, harmonized consumer education across the nation by manufacturers, retailers, and governments, and better logistical management. Much taxpayer and ratepayer money is being wasted by the inefficiencies of each local and state government trying to address this issue.
- Federal legislation should address:
  - Responsibility of manufacturers to finance and establish a recycling system.

- Anti trust issues.
- Performance and reporting requirements (rates and dates).
- Environmental performance standards including banning the export of hazardous electronic waste to developing countries.
- Ban on disposal of covered products.
- Enforcement mechanisms.
- Perhaps the formation of a quasi public entity to coordinate the system. Money should not go into a government account and the account and system should not be managed by a government bureaucracy.

There are numerous documents and reports that have been created through the NEPSI process, by governments working with the Product Stewardship Institute and Northwest Product Stewardship Council, and through state study processes. Some of these documents can be found at:

http://www.productstewardship.net/

Thank you for this opportunity to provide comments. Please feel free to contact me if you need further information or clarification.

Sincerely,

Sego Jackson
Principal Planner
Snohomish County Solid Waste Management Division

Snohomish County Solid Waste Management Division

Email Received 10/27/2004

Ms. Daly

The following files (attached) explain several front-end finance scenarios and use of end of life fees.

<<productsElectronicsFinancingScenarios.pdf>>

<<ARFSYSTEMCHART10.04.pdf>>

<<EPRSYSTEMCHART2.04.pdf>>

<<WAEWASTE-LEGCHART10.04.pdf>>

<<END OF LIFE FEESCHART10.04.pdf>>

Sego Jackson

Principal Planner
Snohomish County Solid Waste Management Division

System Scenarios DRAFT 1.20.04

Front-end Financing (FEF) Scenarios for Collection/Recycling of Electronic Products

There are two primary methods of establishing Front-End Financing (FEF) and innumerable variations and hybrids. This document and the attached charts show the two primary scenarios and a hybrid system used in the Washington E-waste legislation. It will also address the problems with charging end of life fees at the time of recycling.

The scenarios are:

Advanced Recovery Fee (ARF). In an ARF system, a visible fee is collected from the consumer at the point of sale. This money is used to finance the collection and recycling system when products are recycled.

Extended Producer Responsibility (EPR) aka **Cost Internalization (CI**). In an EPR system, the cost of financing the collection and recycling system is incorporated into the cost of doing business or the product price by the manufacturer. There is no visible and separate fee collected by the retailer from the customer.

WA E-waste legislation (HB 2488) proposed Hybrid (WA Hybrid). The WA Hybrid system is a staged, dual system. Manufacturers slowly develop an EPR system where there is no charge to users at the time of recycling. As this program ramps up, a small ARF is collected at point of sale and goes into a government fund. The collection of the ARF sunsets in 5 years. Grants are provided to help develop infrastructure and offset costs of collecting and recycling materials not financed through the manufacturer EPR system.

These scenarios are addressed in more detail in the following pages. There is also information contrasting these scenarios with an End of Life fee system, which is considered by most governments and many other collectors to be a problematic system.

End of Life Fee (EOL). In an end of life fee system, a fee is collected at the point and time of recycling the obsolete product. The consumer makes the payment, to the collector or recycler for the cost of recycling the single unit.

Advanced Recovery Fee System (ARF)

This system is the proposed system resulting from the NEPSI negotiations. The proposed NEPSI system would use an ARF for a period of seven years. Afterward, the system would transition to a partial or full EPR system. Chart A shows how the NEPSI ARF system would work.

How it Works (NEPSI)

Administration
EPA appoints the Board of Directors of a multi-stakeholder, industry-dominated Third Party Organization (TPO). The TPO is responsible for the management of the national system, such as contracting for adequate services. The TPO contracts for recycling services by Processors, and provides within the contracted amount, a Collection Incentive Payment (CIP). The CIP will be paid to collectors via the Processors to reimburse for collection costs, encourage collection, and "buy in" products for recycling. Money is paid out of the Public Trust Account once approved by the TPO.

Manufacturers
The Manufacturers sell products to Retailers.

Retailers
Retailers collect a mandated ARF from customers using a visible, stand-alone fee. Retailers submit the ARF to a Public Trust Account.

Customers
Customers pay the ARF at the time of new product purchase. They can then use any basic collection service that is part of the NEPSI system at no charge. More expensive services, such as curbside collection, exceed in costs what the Collection Incentive Payment covers, and there may be additional collection charges.

Collectors
Retailers, Charities, Recyclers, Governments or Manufacturers themselves may provide collection services. Those that find it beneficial to do so, and affordable due to the Collection Incentive Payment, provide service voluntarily. Material that enters the NEPSI system through a NEPSI contracted Processor, will receive the Collection Incentive Payment paid from the Processor to the collector. Collectors have the freedom to salvage for resale or to direct material to other than NEPSI Processors, but do not receive the CIP for those materials.

Processors
Processors that contract with the TPO provide Environmentally Sound Management (ESM) and agree to pass through CIP to Collectors. Processors bill TPO for services.

TPO
Establishes ESM and export standards. Receives and approves billings from Processors. Establishes other services, promotion and coordination as necessary. Adjusts system and payments as needed to meet budget and performance requirements, including the level of collection necessary to serve Customers.

Pros:

- Removes need for end of life fee for most collectors.
- Fairly linear, simple system.
- Provides funding for orphan, historic and new material.
- Establishes minimum base level of service customers can expect.
- Easy to ascertain if fee is being collected by all sellers.
- Collection is voluntary.
- Allows charities and others to collect at no risk and benefit from resale.
- Minimum or no government bureaucracy created.
- Establishes ESM and export standards needed by and acceptable to "deep pocket" manufacturers and their customers and shareholders.

Cons:

- Manufacturers have virtually no responsibility, other than some will serve on Board of TPO.
- There is no market or other driver for manufacturers to improve design to minimize toxics or recycling costs. They are not engaged with finding efficiencies in system.
- Does not establish system that can be used for other products, unless each product is to carry a separate ARF, which seems unlikely and undesirable.
- Requires customer to pay visible ARF.
- Requires retailer to collect ARF, creating additional administrative costs.
- Fee not very adaptable or resilient to actual costs and savings to system.

Relevance
This approach is proposed by the NEPSI negotiations as a start-up system for seven years for cleaning out orphan and historic material. A related ARF approach that utilizes a government fund and bureaucracy was adopted in California. A smaller ARF and less bureaucratic approach is a component of the HB 2488 proposed hybrid system. Generally, television manufacturers, as well as computer manufacturers with small current market share but much historic waste (such as IBM), prefer this approach. Some computer manufacturers that have high current market share, but little historic material, such as HP and Dell, oppose this approach. Generally, retailers don't like it because they have increased costs and administration due to collecting fee. Some governments prefer it due to the confidence it provides for infrastructure funding.

Extended Producer Responsibility System (EPR) aka Cost Internalization System (CI)

This system is a theoretical system charted to demonstrate EPR. It is similar to the system proposed in the 2003 Washington e-waste legislation (HB 1942), the system the NEPSI system could transition to after the seven year ARF, and a component of the WA Hybrid system in HB 2488. Chart B shows how the theoretical EPR system would work.

How it Works (theoretical)

Administration
Manufacturers are responsible for planning, implementing and financing the system. They can do this as individual companies (referred to as Individual Responsibility) or Collectively, using a national TPO or several different TPOs. Therefore, administration will vary, depending on the approach of the manufacturer. If a TPO is used, it is anticipated it would have some multi-stakeholder representation, but would be mostly dominated by industry. Manufacturers would develop business relationships that fit their individual business models and are beneficial to them.

The manufacturers, individually, collectively through a national TPO, or collectively through multiple TPOs, are responsible for the overall functioning and financing of the system, such as contracting for adequate services. Manufacturers, or the TPOs, contract for recycling services by Processors, and provided within the contracted amount, a Collection Incentive Payment (CIP) could be paid, or Collectors could be contracted with directly to provide service. The CIP could be paid to Collectors directly by the Manufacturers or via the Processors, to reimburse for collection costs, encourage collection, and "buy in" products for recycling.

Manufacturers
Manufacturers are directly responsible for the system, individually or collectively. The Manufacturers sell products to Retailers. The costs of the system are absorbed by the manufacturer as a cost of doing business, are taken from other cost centers, or are incorporated into the overall cost of the product. Manufacturers pay for the system directly or through providing funds to a TPO to manage the system on their behalf.

Retailers
Retailers may choose to provide collection services and promote the recycling programs, but have no required responsibilities, and do not collect and submit a visible fee. No Retailer book keeping and accounting practices change.

Customers
Customers pay no visible fee at the time of purchase, and may not pay any increase in product price depending on how the manufacturer has structured its program and what efficiencies and cost reductions it has attained. For recycling, the customer must use

whatever services are available for that brand, provided through the Manufacturer or TPO, at no cost. Otherwise, they must use whatever other programs may or may not exist, probably paying an end of life fee. Also, more expensive services, such as curbside collection, that exceed in costs what the Collection Incentive Payment or Manufacturer covers may result in additional charges.

Collectors
or its TPO has contracted with. The Manufacturer or its TPO could also develop a system whereby a diversity of collectors are encouraged to establish services, due to a Collection Incentive Payment or other collection incentive mechanism. This could encourage Retailers, Charities, Recyclers, and Governments to provide collection services. Those that find it beneficial to do so, and affordable due to the Collection Incentive Payment or other mechanism, provide service voluntarily.

Processors
Processors that contract with the Manufacturers or TPO provide Environmentally Sound Management (ESM) and agree to pass through CIP to Collectors, if that collection incentive tool is used. Processors bill Manufacturers or TPO for services.

Manufacturer or TPO on behalf of Manufacturer
Establishes ESM and export standards. Receives and approves billings from Processors. Establishes other services, promotion and coordination as necessary. Adjusts system and payments as needed to meet budget and performance requirements, including the level of collection necessary to serve Customers. Manufacturers are able to adjust the program based upon actual cost of recycling their materials and any design changes or system efficiencies they achieve directly benefit them.

Pros:

- Customer does not pay extra fee, and may pay nothing in addition.
- Customers don't complain about "taxes." Nothing changes in purchase process for customer.
- Retailer does not need to collect fee and incur administrative costs. Nothing changes in sales process for retailer.
- No government bureaucracy created.
- Manufacturers directly responsible for success of system and system efficiencies, which can be gained using private sector ingenuity.
- Establishes program based on business models and market drivers.
- Manufacturers directly benefit from design changes to reduce toxicity and increase recyclability.
- Manufacturers engaged in market development for recycled materials due to self-interest.
- Manufacturers able to compete with each other for best, most popular, and most efficient programs.
- Provides funding for historic and new material.

- Establishes services that involve customer relationships with brand owners/Manufacturers.
- Drives Manufacturer divisions to work as a team, such as product design and marketing, and ensures information will be provided through Manufacturer websites, packaging and owner manuals.
- Manufacturers responsible for ensuring collection system. No entities required to collect if not beneficial to them.
- Establishes a program that can be easily applied to other product types.
- Establishes ESM and export standards needed by and acceptable to "deep pocket" manufacturers and their customers and shareholders.
- Many other benefits are possible, based on arrangements with Manufacturers and system design.

Cons:

- Does not necessarily establish financial support for broad range of collector types and services.
- There may be little consistency between programs, making consumer awareness and use more problematic.
- There may still be pressure on some governments and other collector types to provide services.
- Difficult to ascertain if all manufacturers are meeting obligations, since no visible fee is collected at retail.
- This is a new approach that is not widely understood. There will be complexities, difficulties, successes and failures.
- It is unclear how Orphan materials will be covered.

Relevance

Many governments, retailers and non-governmental organizations favor this approach. A number of manufacturers, such as Dell and HP support a partial step in this direction, in NEPSI and as a U.S. approach. This type approach was used in the 2003 WA E-waste Legislation (HB 1942) and has appeared in a number of bills introduced across the country. This approach is phased in under the proposed WA E-waste legislation (HB 2488). Governments working with the Product Stewardship Institute selected this system as the preferred system for state legislation. The NEPSI system, after seven years, is to transition into something similar or that does part of what is described above. Legislation adopted by the European Union incorporates this form of financing. Television manufacturers and computer manufacturers with less current market share but with much historic product from past sales tend to oppose this approach

Washington Legislation (HB 2488) Hybrid

This approach is a hybrid of the two approaches discussed previously. The WA Hybrid establishes a dual system, with the EPR system ramping up over 5 years and the collection of a small ARF sun setting after 5 years. There are many benefits to this approach, addressed in the pros and cons section below.

How it Works (HB 2488 and theoretical)

Administration
Manufacturers are responsible for planning, implementing and financing the system for 20% of their products by 2007 and an additional 10% per year for the next 5 years. They can do this as individual companies (referred to as Individual Responsibility) or Collectively, using a national TPO or several different TPOs. Therefore, administration will vary, depending on the approach of the manufacturer. If a TPO is used, it is anticipated it would have some multi-stakeholder representation, but would be mostly dominated by industry. Manufacturers would develop business relationships that fit their individual business models and are beneficial to them.

The manufacturers, individually, collectively through a TPO, or collectively through multiple TPOs, are responsible for the overall functioning and financing of their portion of the system, such as contracting for adequate services. Manufacturers, or the TPOs, contract for recycling services by Processors, and provided within the contracted amount, a Collection Incentive Payment (CIP) could be paid, or specific Collectors could be contracted with directly to provide service. The CIP could be paid to Collectors directly by the Manufacturers or via the Processors, to reimburse for collection costs, encourage collection, and "buy in" products for recycling.

Simultaneously, the Department of Community, Trade and Economic Development establishes an appointed advisory committee and a fund for receiving a small ARF, which is collected at the point of sale. These funds are utilized to provide grants and loans for the establishment of collection and recycling infrastructure in the state, for the cost of collecting orphan and historic product not collected through manufacturer funded programs, and for other system stated purposes.

Manufacturers
Manufacturers are directly responsible for their portion of the system, individually or collectively. The Manufacturers sell products to Retailers. The costs of the system are absorbed by the manufacturer as a cost of doing business, are taken from other cost centers, or are incorporated into the overall cost of the product. Manufacturers pay for the system directly or through providing funds to a TPO to manage the system on their behalf.

Retailers
Retailers must collect the State mandated ARF of $5. They keep $.50 to cover their costs and submit the payment to CTED. They may choose to provide collection services and promote the recycling programs, but none are required. The ARF collection activity sunsets after 5 years.

Customers
Customers pay a $5 visible fee at the time of purchase, and may or may not pay any increase in product price depending on how the manufacturer has structured its program and what efficiencies and cost reductions it has attained. For recycling, the customer must use whatever services are available for that brand, provided through the Manufacturer or TPO, at no cost. Otherwise, they must use whatever other programs exist. These programs may be at no charge, a reduced charge, or a full end of life fee, depending upon whether or not the Collector received a grant to cover some or all costs.

Collectors
Collection will be provided by the Manufacturer or whoever the Manufacturer or its TPO has contracted with for its portion of services. The Manufacturer or its TPO could also develop a system whereby a diversity of collectors are encouraged to establish services, due to a Collection Incentive Payment or other collection incentive mechanism. This could encourage Retailers, Charities, Recyclers, and Governments to provide collection services. Those that find it beneficial to do so, and affordable due to the Collection Incentive Payment or other mechanism, provide service voluntarily, with support from the manufacturers. The same or other Collectors can apply to the CTED fund to cover costs through loans or grants. Not all collectors are guaranteed grants, as funds may not be adequate.

Processors
Processors that contract with the Manufacturers or TPO provide Environmentally Sound Management (ESM) and agree to pass through CIP to Collectors, if that collection incentive tool is used. Processors bill Manufacturers or TPO for services for the manufacturer portion of the system. Otherwise, processors charge an end of life fee or apply to CTED for loans or grants to cover the cost of collecting orphan and additional historic material that wasn't paid for by manufacturer's share of program.

Manufacturer or TPO on behalf of Manufacturer
Establishes ESM and export standards. Receives and approves billings from Processors. Establishes other services, promotion and coordination as necessary. Adjusts system and payments, as needed to meet budget and performance requirements, including the level of collection necessary to serve Customers. Manufacturers are able to adjust the program based upon actual cost of recycling their materials and any design changes or system efficiencies they achieve directly benefit them.

Pros:

- All parties share in establishment and long-term aspects of program. Full responsibility isn't placed on any party.
- Retailer collects fee for limited time and keeps generous 5% of fee to cover costs.
- ARF is relatively small.
- Government bureaucracy is kept to a minimum and government collection of funds sunsets after 5 years.
- Collectors not getting adequate support from Manufacturer programs have potential funding source to cover costs.
- Raises funds for infrastructure development and research by small business, resulting in expanded services and potentially design break through.
- Manufacturers directly responsible for success of their portion of system and system efficiencies, which can be gained using private sector ingenuity.
- Over time, establishes program based on business models and market drivers.
- Manufacturers directly benefit from design changes to reduce toxicity and increase recyclability.
- Manufacturers engaged in market development for recycled materials due to self-interest.
- Manufacturers able to compete with each other for best, most popular, and most efficient programs.
- Provides funding for orphan and historic through ARF to assist in "clean out" of old.
- Clean out of orphan and historic material while manufacturers ramp up eliminates unexpected cost burden on manufacturers and allows time for manufacturer system development.
- Manufacturers cannot complain about not knowing of responsibilities in advance.
- Establishes services that involve customer relationships with brand owners/Manufacturers for Manufacturer portion.
- Drives Manufacturer divisions to work as a team, such as product design and marketing, and ensures information will be provided through Manufacturer websites, packaging and owner manuals.
- Manufacturers responsible for ensuring collection system for their portion of the system. No other entities required to collect if not beneficial to them.
- Establishes ESM and export standards needed by and acceptable to "deep pocket" manufacturers and their customers and shareholders.
- May pioneer program that can be applied to other product types.
- Many other benefits are possible, based on arrangements with Manufacturers and system design.

Cons:

- Does not guarantee full needed financing to provide necessary collection and recycling efforts. There may not be enough money.
- Loan and grant structure for funding will eliminate some potential or actual collectors.
- There may be little consistency between programs, making consumer awareness and use more problematic.

- Consumers will be confused why some services are free, some cost little, and some cost more.
- Consumers will be confused why they paid a fee at point of sale and may also have to pay fee at end of life.
- Retailer must collect fee, even though for limited time and with financial incentive.
- Services may not be consistently available across state.
- There may still be pressure on some governments and other collector types to provide services, though adequate funding may not exist.
- Difficult to ascertain if all manufacturers are meeting obligations.
- The Manufacturer portion of the system is a new approach that is not widely understood. There will be complexities, difficulties, successes and failures.
- It is unclear how Orphan materials will be covered, or the 30% not collected by manufacturers, after the ARF sunsets in 5 years.

Relevance

This is a very interesting compromise approach that shares responsibility and phases in a progressive system over time. During that time, funding is created to stimulate small business development and pay for collection of orphan and historic products. Numerous hybrid systems were considered in NEPSI but none quite like this. Generally, those that oppose ARF systems will oppose this. Those that oppose EPR systems will oppose this. However, most objections to either system are ultimately addressed through this hybrid. It is a reasonable compromise approach, if the issues about consumer confusion can be worked out. Likely, this approach will be copied in legislation introduced by other states.

Use of End of Life Fees (EOL)

This is not a system in that the components are not truly linked or coordinated. Utilizing EOL fees seems simple but creates many problems. It is basically the status quo, where any programs currently exist.

How it Works (EOL)

Administration
There is no administration as there is no system. Individual players accomplish administration.

Manufacturers
The Manufacturers sell products to Retailers.

Retailers
Sell product to Customer.

Customers
Customers buys product. When product is obsolete to Customer, Customer decides what to do with it, based on attitudes and perceptions, costs and convenience. Options include legal or illegal disposal, storage and stock piling, donation to charity (regardless of acceptance policies), paying for recycling, if available, giving to relative, etc.

Collectors
Collectors must charge a fee to cover their costs. Collectors who do not charge a fee are likely using general tax or rate revenues, inappropriately disposing of materials collected, or exporting in an irresponsible way. Collectors receive a payment to pay for recycling of product.

Processors
Processors charge a fee to collectors to take materials and recycle them.

Pros:

- A simple scenario that pays for the recycling of a product when it is being recycled.
- End of life fee can be adjusted to cover actual direct costs.
- Eliminates problems with collecting ARF by retailers.

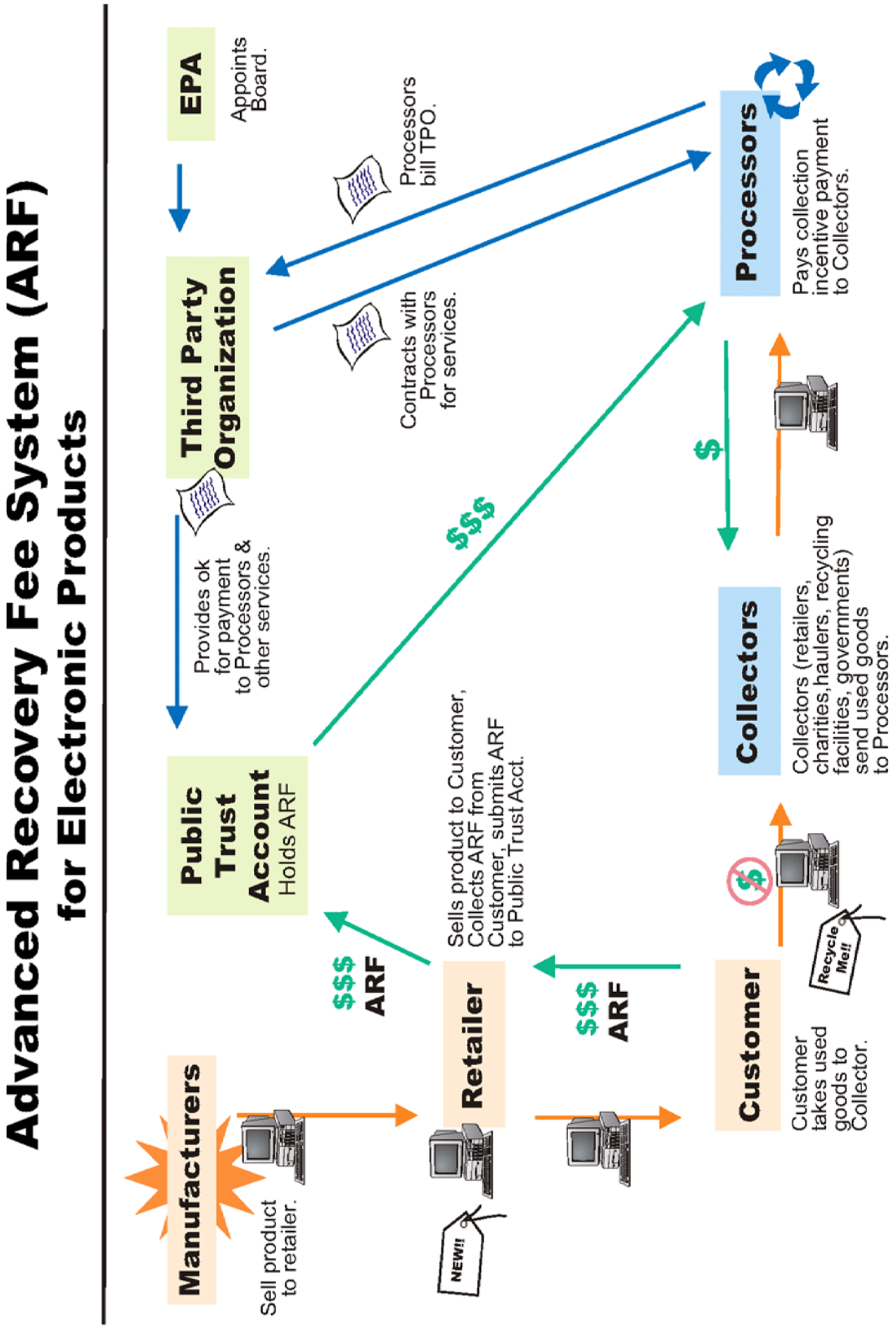
Cons:

- Fees paid EOL result in higher customer and public costs than Front End Financing models.
- Some products are so expensive to recycle EOL, such as console televisions, that no one will be willing to do it.

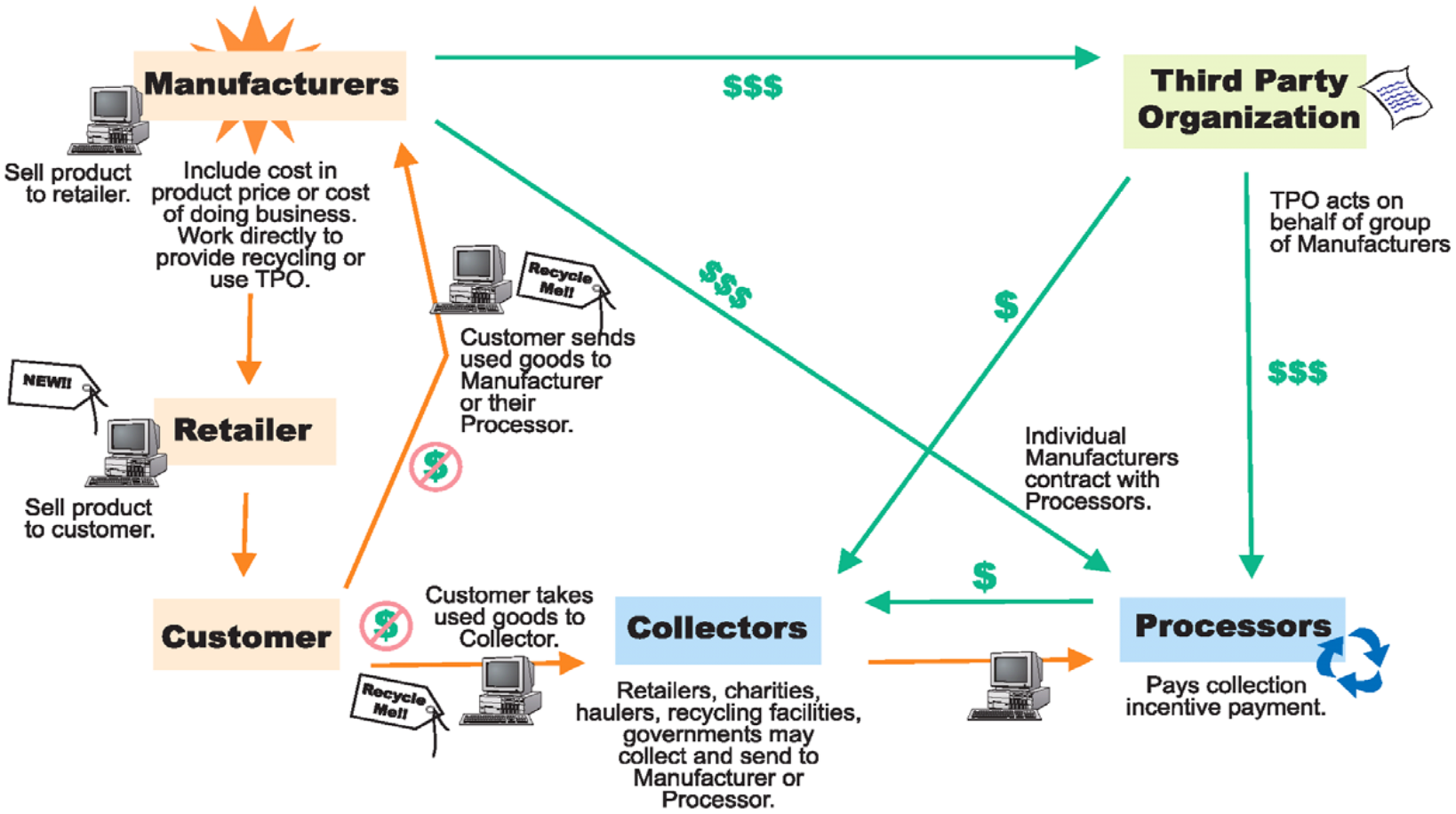
- EOL fees will result in low recycling rates and high costs to encourage people to use recycling services. Only the most conscientious will participate.
- Fees paid EOL encourage disposal instead of recycling.
- EOL fees encourage storage and discourage recycling.
- EOL fees encourage illicit and illegal disposal and dumping.
- EOL fees encourage dumping "donations" on charities and schools.
- Fees are paid to Collectors prior to recycling actually happening. This can result in stockpiling and fraud. ("Electronics are the tire piles of this decade.")
- Fees are paid to Processors prior to recycling actually happening. This can result in stockpiling and fraud.
- Types of Collectors limited by those that can collect fee. Some facilities, charities, and other potential collectors are unable to.
- Charities and Schools that have materials dumped on them incur high EOL fees to get rid of, cutting into funds for their programs.
- Students, the poor and others who receive donated products from others are least able to pay EOL fees at time of recycling.
- Manufacturers have no responsibility.
- Manufacturers have no incentive to assist with promotion, funding, or coordination of issue within the company or the community.
- There is no market or other driver for manufacturers to improve design to minimize toxics or recycling costs. Their product design can continue to increase EOL costs due to increased toxicity and difficulty to recycle.
- Most likely scenario to drive for "government pays all" programs and use of general tax fund or rate funds to cover costs.
- Public sector will be left with clean up costs for illegal dumping and site clean up from abandoned stockpiles.
- There is no coordinated process to protect against inappropriate handling and use of inappropriate export.
- Use of the scenario will result in continuous and on-going calls for a better system.

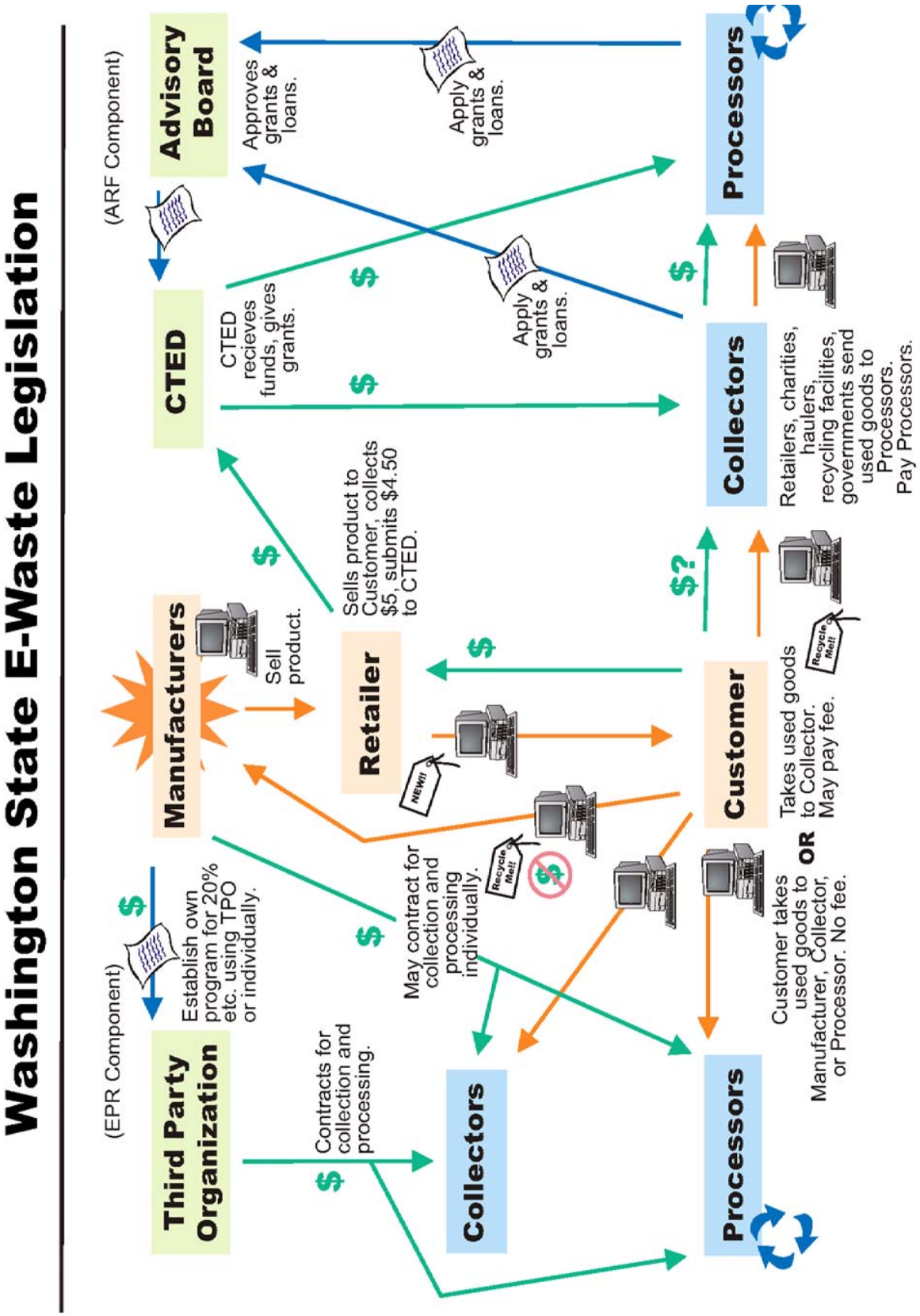
Relevance

This approach has been rejected as a long- term solution by many governments in Washington and across the country. It has also been rejected by a diversity of other stakeholders and in most other developed countries, most of which are in the process of developing FEF systems. Because it reflects how things have been done in the past, those that have not been actively engaged on these issues sometimes suggest EOL or government pays all programs as the solution. EOL activities are relevant for use during an interim period while a FEF system is established voluntarily, for the state, or nationally. EOL programs have helped get some initial collection and processing infrastructure established and have been used by manufacturers and retailers to initially pioneer programs.


Advanced Recovery Fee System (ARF)
for Electronic Products
EPA
Appoints Board.
Third Party Organization
Processors bill TPO.
Contracts with Processors for services.
Provides ok for payment to Processors & other services.
Public Trust Account
Holds ARF
$$$ ARF
Sells product to Customer, Collects ARF from Customer, submits ARF to Public Trust Acct.
$$$ ARF
$$$
$
Processors
Pays collection incentive payment to Collectors.
Collectors
Collectors (retailers, charities, haulers, recycling facilities, governments) send used goods to Processors.
Manufacturers
Sell product to retailer.
Retailer
NEW!!
Customer
Customer takes used goods to Collector.
$
Recycle Me!!

Extended Producer Responsibility System (EPR)
for Electronic Products




Washington State E-Waste Legislation
(EPR Component)
Establish own program for 20% etc. using TPO or individually.
Third Party Organization
Contracts for collection and processing.
Collectors
Processors
Customer takes used goods to Manufacturer, Collector, or Processor. No fee.
OR
Takes used goods to Collector. May pay fee.
Customer
May contract for collection and processing individually.
Manufacturers
Sell product.
Retailer
Sells product to Customer, collects $5, submits $4.50 to CTED.
(ARF Component)
Advisory Board
Approves grants & loans.
Apply grants & loans.
CTED
CTED recieves funds, gives grants.
Apply grants & loans.
Collectors
Retailers, charities, haulers, recycling facilities, governments send used goods to Processors. Pay Processors.
Processors
$?

Use of End of Life Fees